



## PATENT ABSTRACTS OF JAPAN

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FUNCTIONAL ELEMENTradius of curvature may be changed according to the  
change of a spot size.

## (57)Abstract:

**PROBLEM TO BE SOLVED:** To make the element low in reflectivity by using the reflectivity reducing technique utilizing a dielectric multilayer film jointly by making the direction of waveguide of a function processing part different from the direction of optical waveguide of a light input/output end face part.

**SOLUTION:** The radius of curvature  $R$  of an active layer part 131 is 500  $\mu\text{m}$  of constant curvature and the part is gently curved with an angle of 10°. Consequently, the angle  $\theta$  made between the active layer part stripes 131 becomes 10° and the waveguide direction of the active layer part 131 is different from the optical waveguide direction of a light input/output end face part. If the light input/output end face part and the active layer part stripe 131 make some angle, the curvature of the whole active layer part stripe 131 makes no problem. The radius  $R$  of curvature is not made constant and may be gradually changed. For example, since the larger the optical trapping coefficient is, the smaller the loss due to the curvature becomes, the

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